

REMARKS

This responds to the Office Action mailed on March 23, 2005. Claims 1, 14, 33, 45, 47, 49, 51, 61, 72, 82 and 90 are amended, no claims are canceled, and no claims are added. Thus, claims 1-10, 14-21 and 24-92 remain pending. Of these pending claims, claims 3, 17, 28, 37, 40, 58, 67, 68, 76, 81 and 89 currently stand withdrawn, and claims 1, 2, 4-10, 14-16, 18-21, 24-27, 29-36, 38, 39, 41-57, 59-66, 68-75, 77-80, 82-88 and 90-92 are currently being considered in this application.

Claims 26 – 32 have been allowed. Claims 8, 20, 52, 63, 73 and 78 were objected to, but were indicated to be allowable if rewritten in independent form to include the limitations of the base claim and all intervening claims. Applicant thanks the Examiner for the indication of patentable subject matter.

The claim amendments are made in view of the allowable subject matter to further the prosecution of this application to finality. Applicant respectfully requests the Examiner to enter the amendments to claims 1, 14, 33, 45, 47, 49, 51, 61, 72, 82 and 90, as these amendments are believed to place the application in condition for allowance and are believed to only require a cursory review by the examiner. Applicant reserves the right to file continuation application(s) to pursue claims of other scope.

Claims 4-7 and 49 are indicated to be rejected, but no specific rejection of these claims is given. Claims 48, 50, 61, 64-66, and 69-71 are not addressed. For example, claim 63 is objected to, but independent claim 61 upon which it is based is not discussed in the Office Action or listed on the summary sheet. Applicant has responded to the Office Action by including these claims in the discussion where it would appear to be most appropriate to do so.

§102 Rejection of the Claims

Claims 1 and 6 were rejected under 35 U.S.C. § 102(b) for anticipation by Dion et al. (U.S. 3,943,666). Applicant respectfully traverse this rejection.

The cited Dion reference discloses a polishing system having a rotating platen 10 in contact with a rotating abrasive element 30, typically formed of alumina. See column 3, line 46 to column 4, line 5. There is no linear motion of the polishing pad or disk relative to one another

during the polishing process and the direction of rotation of the abrasive material 30 results in debris being thrown onto a section of the wafer 10 that is going to be polished.

Applicant respectfully submits that the cited reference does not disclose the feature of “*...wherein at least one of the polishing pad drum and the platen are adapted to be linearly moved with respect to the other to move the wafer with respect to the polishing pad drum in a direction to throw debris in a direction toward a previously processed portion the wafer...*”, as recited in claim 1, as amended herein. Dion’s platen does not move linearly and the debris is not thrown toward a previously processed portion of the wafer.

The dependent claim 6 is held to be patentable at least as depending from a base claim shown above to be patentably distinct over the reference. In view of the above amendments and discussion, Applicant respectfully requests that this rejection be reconsidered and withdrawn.

§103 Rejection of the Claims

Claims 1, 2, 9, 14, 16, 18, 19, 21, 24, 25, 33, 35, 36, 38, 39, 41-47, 51-57, 59, 60, 72-75, 77-80, 82-88, and 90-92 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Shimizu (U.S. 5,827,115) in view of Dion. Applicant respectfully traverses this rejection.

The cited reference of Shimizu discloses a system with a rotation of the wafer 9 and a “reciprocation” (see col. 3, lines 2, 14, 26 and 61; col. 4, line 24; and figures 2 and 3) of the drum and pad 16, which provides multiple passes of any particular portion of the wafer 9 under the polishing drum and pad 16. Shimizu discloses that “...when the number of strokes of the reciprocating motion is increased to obtain a specific amount of polishing polishing irregularity of each stroke can be reduced ...” (see col. 7, lines 4-5). Since Shimizu has the wafer 9 rotating under the drum 16, there cannot be “one pass”, or the linear motion causing the debris to be thrown towards a portion of the wafer just polished, as found in the present claims.

Specifically, Applicant respectfully submits that the suggested combination of references neither describes nor suggests the feature of “*...wherein at least one of the polishing pad drum and the platen are adapted to be linearly moved with respect to the other to move the wafer with respect to the polishing pad drum in a direction to throw debris in a direction toward a previously processed portion the wafer...*”, as recited in claim 1, as amended herein. Similar language may be found in independent claims 14, 33, 45, 47, 51, 72, 82 and 90, all as amended

herein. Thus, the two suggested references either teach an arrangement that throws the debris to a location where it will interfere with the upcoming polishing, or do not specify a direction since the wafer is rotating under the spinning drum and thus cannot define a direction in which the debris is thrown.

The dependent claims are held to be patentable at least as depending from a base claim shown above to be patentable over the suggested combination of references. In view of the above amendments and discussion, Applicant respectfully requests that this rejection be reconsidered and withdrawn.

Claims 10, 15, 34, and 62 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Shimizu in view of Dion, and further in view of Bruxvoort et al. (U.S. 5,958,794). Applicant respectfully traverses this rejection.

The cited references of Dion and Shimizu have features that have been discussed above with reference to the prior rejections. The cited reference of Bruxvoort is used in the outstanding Office Action to show that laser dressing of the polishing surface is known.

Applicant respectfully submits that the cited Bruxvoort reference does nothing to cure the above noted deficiencies of the Dion and Shimizu combination. Specifically, Applicant respectfully submits that the suggested combination of references neither describes nor suggests the feature of “*...wherein at least one of the polishing pad drum and the platen are adapted to be linearly moved with respect to the other to move the wafer with respect to the polishing pad drum in a direction to throw debris in a direction toward a previously processed portion the wafer...*”, as recited in claim 1, as amended herein. Similar arguments are believed to apply to independent claim 14, 33 and 61, as amended herein.

The dependent claims are believed to be patentable at least as depending from base claims shown above to be patentable over the suggested combination of references. In view of the above amendments and discussion, Applicant respectfully requests that this rejection be reconsidered and withdrawn.

Allowable Subject Matter

Claims 26-32 were allowed in this Office Action. Applicant thanks the Examiner for reconsidering and allowing withdrawn claim 28.

Claims 8, 20, 52, 63, 73, and 78 were objected to as being dependent upon a rejected base claim, but were indicated to be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicant notes that claims 52 and 78 are listed as rejected under 103(a) over Shimazu in view of Dion.

Request for Reconsideration of Withdrawn Claims

Withdrawn claims 3, 17, 28, 40, 58, 67, 68, 76, 81 and 89 are dependent claims. For the reasons provided above, Applicant believes that their base claims are in condition for allowance. As such, Applicant respectfully requests consideration and allowance of these withdrawn claims.

CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney David Suhl at 508-865-8211, or the below-signed attorney at (612) 373-6960 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Mail Stop AF, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 4 day of May, 2005.

Name

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Signature

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